Electronic Version
Stylesheet Version v1.1.1

Claims

[c1] WHAT IS CLAIMED IS:

1.A compensation device for compensating a volumetric expansion of a medium during freezing, the compensation device comprising:

a receptacle provided in a structural component and configured to contain a medium;

a sealing element delimiting the receptacle;

wherein the sealing element is prestressed by a prestressing force against an operating pressure of the medium.

[c2] 2. The device according to claim 1, wherein the sealing element comprises a bellows loaded on a first side by the operating pressure of the medium and on a second side by the prestressing force.

[c3] 3. The device according to claim 2, further comprising a piston, wherein the bellows rests against an end face of the piston.

[c4] 4. The device according to claim 3, further comprising a sleeve inserted into the receptacle, wherein the sealing element surrounds the sleeve across a portion of a

length of the sleeve.

[c5] 5. The device according to claim 4, wherein the sleeve has at least one stop for limiting a movement path of the piston.

[c6] 6. The device according to claim 5, wherein the sleeve has a first end provided with a radial inwardly oriented flange, wherein the radial inwardly oriented flange forms the stop.

[c7] 7. The device according to claim 4, wherein the piston projects axially past the sleeve.

[c8] 8. The device according to claim 4, wherein the sleeve has a second end provided with a holding part.

[c9] 9. The device according to claim 8, wherein the holding part is a radial outwardly oriented flange.

[c10] 10. Device according to claim 8, wherein the holding part of the sleeve is secured by a crimped portion of the structural component.

[c11] 11. The device according to claim 4, wherein the sealing element is secured between the sleeve and an inner wall of the receptacle.

[c12] 12. The device according to claim 4, wherein the sealing

element has at least one holding member at an end remote from the bellows.

[c13] 13. The device according to claim 12, wherein the holding member of the sealing element is a radial outwardly oriented flange

[c14] 14. The device according to claim 13, wherein the sleeve has a second end provided with a holding part and wherein the holding member of the sealing element is secured by the holding part of the sleeve.

[c15] 15. The device according to claim 1, wherein the sealing element is a piston having at least one sealing ring that rests seal-tightly against an inner wall of the receptacle.

[c16] 16. The device according to claim 15, wherein the structural component has at least one stop limiting a movement path of a movement of the piston resulting from the prestressing force.

[c17] 17. The device according to claim 16, wherein the stop is a shoulder surface on the inner wall of the receptacle.

[c18] 18. The device according to claim 17, wherein the receptacle has a first section and a second section, wherein the first section has a diameter that is smaller than a diameter of the second section, wherein the shoulder sur-

face is located where the first and second sections meet.

[c19] 19. The device according to claim 18, wherein the piston is arranged in the second section of the receptacle.

[c20] 20. The device according to claim 1, further comprising at least one pressure spring acting on the sealing element to provide the prestressing force.

[c21] 21. The device according to claim 20, further comprising a lid secured in the receptacle, wherein the pressure spring is supported on the lid.

[c22] 22.The device according to claim 1, wherein the medium is a urea-water solution.